See also - 906
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A practicable program for The Rockefeller Foundation in the advancement of knowledge exists if we set before ourselves these three propositions:

- 1. That man understand himself better mind and body.
  - 2. That man understand his human environment better himself in terms of others and others in terms of himself, the phenomena of his social and economic relationships.
  - 3. That man understand more completely the nature of the physical universe, which is his environment.

Between the realization of these desiderata and the fact that there are funds which sould be devoted to this purpose there are the following considerations:

I. The intrinsic and essential qualifications of The Rockefeller Foundation are that it disposes of large sums of money which can be rapidly mobilized and narrowly concentrated; that the expenditure of its money is virtually under the control of technical advisors now assured of favorable and intelligent co-operation in any part of the world; and that the Foundation has a policy which is neither inflexible nor obligatory for an indefinite period of time. II. The Board's contribution towards realizing these desiderata can be only partial. It can prime the pump. It cannot include everything nor take full responsibility for the support of a very large number of undertakings. It must, therefore, be limited in character if it is to be wide in scope, significant and lasting in effect. III. Knowledge advances in ways unforeseable. It is, therefore, futile to make a rigid program or an exact plan. But general plans are reasonable and indeed necessary to avoid dissipation of effort and attention.

- IV. The Board is not an operating agency. It must work through others. It is consequently of the greatest importance that care be exercised both in the selection of those through whom it expects to work and in the determination of the relationships of the Board with these persons or agencies. In the last analysis, advancement of knowledge depends upon human beings, usually human beings of superior intelligence and/or placed in conditions conducive to research and reflection. The requirements of research are essentially four:
  - The man, who should be intellectually gifted, curious, unsatisfied, persistent and preferably healthy, though not necessarily young.
  - 2. A promising field of interest i.e. a subject or curiosity which offers in the present state of knowledge and methods, a promising lead.
  - 3. Support of a financial sort for the payment of salaries, supplies, instruments, housing, and the opportunity of keeping in contact with the work and ideas of others.
  - 4. Recruitment by which is meant the continuation through training of the coming generation, of advances already obtained, and the possibility of bringing fresh minds and energies to the resolution of problems still unsolved.

In essence then the task may be said to be to find, to train and to support the best quality of investigators available.

V. It is unwise to ignore the conservation and propagation of existing knowledge in an attempt to acquire new knowledge. The world is not ending with the present generation nor does it as yet enjoy in any satisfactory measure the utilization of what is already known. Society, however, is relatively familiar with and loyal to the task of teaching and conserving knowledge, but it is only beginning to learn the value of supporting what might be called a new profession, that of the investigator.

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The work of The Rockefeller Foundation in medical education and the medical sciences is difficult to condense into a few paragraphs. If such a resume be useful, it would be the following:

Starting from the recognition that the health of mankind depends to a very large degree upon the knowledge and capacity of practitioners of all forms of medicine, the Board undertook to improve the quality of medical education successively in a large number of countries. At the outset of this undertaking it was an immeasurable advantage to have time without serious interruptions for the survey of the status quo and for the elaboration of a program of action. From this period of widely extended study of medical education in different countries came two results:

- 1. The officers gained enormously in knowledge not only of the varieties and details of medical education, but of the fundamental considerations to be borne in mind.
- 2. Some general policies were adopted: those of strengthening especially the medical sciences, of supporting the so-called full-time principle in the clinics, of aiding promising individuals through foreign fellowships, and, as a matter of strategy, the selection of certain centers of influence in medicine for intensive development (London, Sao Paulo, Paris, Peiping).

As time went on the Division of Medical Education developed projects in a large number of countries, in each instance with the objective of improving the existing institutions for medical education. Funds were used for buildings, endowment, temporary support, training of personnel, and interchange between different countries of information and points of view. During the earlier part of the history of the Division of Medical Education, the allocation of money for the support of research as such was not considered within the program, but towards the end of this period, and more explicitely with the reorganization of 1929, the support of investigation and research as such came to be the dominant phase of the Foundation's interest

in medical science. In retrospect it would be my opinion that the best programs during the past ten years in the field of medical education and medical science have been buildings and endowments at strategic points, fellowships local and foreign, and long term grants-in-aid of capable investigators. Failures or disappointments were most commonly associated with incompetent men, premature hopes of progress in fields where no advance has taken place, and over-confidence in the social, economic, and cultural matrix on which higher education must rely for its life.

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## Program in Medical Science

It is obvious that with the history of the Medical Sciences and the existence of activities which are in active operation, the future activities of the Medical Sciences are certain to be of two general sorts: old and new. The old may be divided into activities which it is proposed to maintain, and programs in which the commitments will be progressively reduced or allowed to expire without renewal. The continuing programs are in the main connected with medical education in China, including the PUMC, fellowship programs, both foreign and those now administered by the National Research Council, and the program of grants-in-aid in Europe, a function which in the United States is at present discharged through the National Research Council. A full list of such maintenance programs and of programs that will be terminated is not ready at this time, but certain general decisions to be described later have a bearing on those programs.

The new program for intensive development is in the field of psychiatry and neurology. Although it may be expected that in the later stages of planning a large degree of emphasis will be placed upon the advancement of knowledge in these fields, and although this motive will in many

instances be present from the beginning in projects submitted, the present status of these fields throughout the world is such that some attention must be placed upon the teaching and recruitment facilities on what would appear to be the institutional basis. The main activities will be three:

- Selection and training of personnel through scholarships and fellowships.
- 2. A program in grants-in-aid of research based upon nature of problem, quality of work, and excellence of facilities.
- 3. Capital grants for buildings or endowment, or in lieu of such capital grants, assurance of maintenance over periods of time sufficient to test and prove the recipient institution as a place deserving a capital grant.

The program in psychiatry and neurology has been described in greater detail in a previous memorandum in which proposals for personnel recruitment, grants-in-aid of research, endowment or maintenance grants, and the support of national or international organizations; having this field as their pre-occupation, are recommended.

As a subordinate interest of the Medical Sciences the teaching of public health in medical schools is advanced as a subject because it is through preventive medicine and hygiene that medical science in the future will probably find its greatest applicability and effectiveness and its greatest support. By subordinate interest is implied that the Board may well be prepared to aid especially well planned and well staffed departments of hygiene, selecting only the conspicuously promising possibilities and without attempting to stimulate requests or to develop the field intensively. The type of aid contemplated would include grants for equipment and temporary maintenance of departments and occasional grants-in-aid for the development of research in various subjects comprised by the department of preventive

medicine or public health. Among such subjects those of genetics and nutrition offer at the present time particularly attractive possibilities, but considerable further study on the part of the officers is necessary before any concrete recommendations could be advanced. It is probably true that significant advances in the effectiveness of departments of public health and preventive medicine may be expected from new teaching methods, especially those which offer opportunity to the students of becoming directly familiar with practical public health work in demonstration areas and actual field work.

opportunities of quite exceptional merit and promise which will lie outside the field of declared interest and special concentration. It is wise to make definite provision for the occurrence of exceptional opportunities although such projects should always be subject to the closest scrutiny and when possible be placed, so to speak, in actual competition with each other in order to eliminate all but the very best. This is tantamount to the belief that the Foundation should be free to consider proposals on their merits but be extremely reluctant to blur or scatter its attention over a wide field.

any decision implies elimination of certain elements, and it is probably advisable to know that the following fields of activity are to be considered as not within MS program: medical economics, dentistry, dental education and dental pathology, nursing education, hospital management, and the field commonly referred to as postgraduate medical education. This list is, of course, not as comprehensive as experience will subsequently make possible.

The magnitude of old and new programs is at the present time difficult to forecast excepting in a general way in view of the fact that the resources of the Foundation are also difficult to predict with exactitude. The value of estimates at this time is only relative. The obligation of the MS for the support of the PUMC will be very large during the year 1933, so large as to give this year an anomalous character. In ordinary years an average budget of \$1,500,000 would cover the old and new programs contemplated with due regard to the needs of other Foundation programs. For the current year in view of the demands of the PUMC, little more than the maintenance of existing commitments and essential renewals can be contemplated. Rather than attempting to submit detailed estimates in the present uncertain conditions and for a period relatively distant. I should prefer to postpone such calculations until the acceptance or rejection of the program outlined above calls for detailed estimates within the total above noted.

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